

# Risk Management Plan - REF8007 - CELRD

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## Scope

This reference document describes Risk Management, a systematic process of identifying, analyzing, and responding to risk for the entire project life cycle. A risk analysis is performed for five categories of project risk: health and safety, scope, quality, schedule, and cost. The level of detail of the risk analysis and Risk Management Plan is based on the complexity of the project. The Risk Management Plan is a supporting plan that facilitates the implementation of the Project Management Plan (PMP). Risk Management, *Safety and Occupational Health – REF8016/REF8016*, *Quality Management – REF8008/REF8008*, *Communications – REF8006/REF8006*, and *Change Management – REF8009/REF8009* Plans are developed concurrently in the iterative Program/Project Planning Phase.

In accordance with AR 385-10, Army Safety Program, a safety risk analysis will be performed for all USACE managed projects. [Response: this line deleted](#)

When a project is determined to be other than low-risk, as defined in the risk management plan, the risk must be identified, and associated control procedures defined in the PMP. Only the responsible district or division Commander may provide final PMP approval in the event of an overall project risk rating of high, or very high, respectively.

## Responsibility

The Project Manager (PM) is responsible for initiating the development of the Risk Management Plan.

The Project Delivery Team (PDT) is responsible for participating in the development of the Risk Management Plan by identifying and defining potential risks and appropriate responses to risks for the project.

## Distribution

Project Manager (PM)

Project Delivery Team (PDT)

## Ownership

The BP/P2 Configuration Manager is responsible for ensuring that this document is necessary and that it reflects actual practice.

## Risk Management Plan Format & Content:

- Identify what the risk management activity is in WBS and describe how often risk management will be performed throughout the project life cycle.

- Describe the budget for risk management plan development and monitoring.
- Customer and Stakeholder Risk Thresholds – Describe the amount of risk that is acceptable.
- Methodology:
  - a. Identify Risks and Characteristics
    - List of Risks
    - Triggers
  - b. Evaluation and Analysis of Risks - Determine Probability and Severity Ratings
  - c. Overall Risk Table
  - d. Describe Highest-Level Risk
  - e. Describe Risk Response Control Procedures - Document identified risks, descriptions, causes, what is affected in the WBS, and impact on project objectives, risk owner and responsibility, agreed response to risk, and expected result of response.
- Risk Monitoring – Describe how the PDT will keep track of identified risks, identify new risks, determine if agreed responses to risks have been executed, and evaluate the effectiveness of risk responses to reduce identified risks. .

## Development of Risk Management Plan:

### Methodology

- Address Risk Management in the Activity Development Process and Resource Estimate Development Process by insuring an activity is added in the WBS and budget for the activity.
- Initiate risk management assessment meeting.
- Identify health and safety hazards and risks to project scope, quality, schedule, and cost.

Risks	Triggers	Potential Impact
Example: Failure to meet a milestone could represent an early warning that a schedule delay may occur.	Milestone exceeded	Schedule will be delayed

Note: Inputs to Risk Identification include but are not limited to the following:

- All project background information
- Customer quality expectations
- Customer and stakeholder risk tolerance(s)
- Historical records
- Past Lessons Learned
- Scope
- WBS
- Network Diagram
- Cost & Time Estimates
- Project Team Personnel Assignments

**Note:** Safety hazards are potential sources of danger that could be faced while performing a project activity, including environmental and human factors. In addition, consider potential risks that could be associated with accomplishing the project's activities, schedule, and fiscal resources

- Evaluate and analyze each hazard and risk identified above. Determine the appropriate probability rating and severity rating (should the hazard/risk event occur) for each hazard and risk from the tables below.

**Note:** Exercising judgment on how to eliminate or reduce hazards and risks to lessen the overall project impacts is inherent in the risk assessment process. Use the descriptions provided below to describe hazard and risk probabilities and severities.

Many of the concerns with the way this was written are unresolved. It's still difficult to follow, much less implement. Also, we do not reference FM100-14 on Risk Management, but the flowchart on the last page is taken directly from it. We do not find METT-T (Mission, Enemy...) defined anywhere, but the reader is being asked to apply it. The chart was developed for a battlefield risk assessment and may not make as much sense to folks in our business. If you don't know what it is, it's tough to apply.

Recommend deleting from here to end and replacing with Risk Information Sheet and Risk Approval Level Sheet

#### Risk Approval Levels

	Probability of Occurrence				
	Frequency	Occasional	Likely	Seldom	Unlikely
Severity	//////////				
	Catastrophic			DPM	PgM
	Critical		DPM	PgM	PM
	Marginal	DPM	PgM		PM
	Negligible	PgM		PM	

Key: DE – District Engineer

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DPM – Deputy District Engineer (PM)

PgM – Program Manager

PM – Project Manager

[Based on the likelihood that an event will occur, use descriptions below to assess probabilities and severities.]

<u>Probability of Occurrence</u>	<u>Description</u>
<u>Frequent</u>	<u>Occurs often, continuously experienced.</u>
<u>Occasional</u>	<u>Occurs several times.</u>
<u>Likely</u>	<u>Occurs sporadically.</u>
<u>Seldom</u>	<u>Unlikely, but could occur at some time.</u>
<u>Unlikely</u>	<u>Can assume it will not occur.</u>

[Severity – Select based on degree of injury, property damage, or other project risk factors including degree of impact on the cost, schedule, scope, and quality requirements as described below.]

	<u>Negligible</u>	<u>Marginal</u>	<u>Critical</u>	<u>Catastrophic</u>
<u>Health and Safety</u>	<u>First aid or minor medical treatment</u>	<u>Minor injury, lost workday accident</u>	<u>Permanent partial disability, temp. total disability &gt; three months</u>	<u>Death or permanent total disability</u>
<u>Cost</u>	<u>Insignificant cost increase</u>	<u>5-10% cost increased</u>	<u>10-20% cost increase</u>	<u>&gt; 20% cost increase</u>
<u>Schedule</u>	<u>Insignificant schedule slippage</u>	<u>5-10% schedule slippage</u>	<u>10-20% schedule slippage</u>	<u>&gt; 20% Overall Project schedule slippage</u>
<u>Scope</u>	<u>Scope change barely noticeable</u>	<u>Minor areas of scope are affected</u>	<u>Scope change unacceptable to customer</u>	<u>Project end item is effectively useless</u>
<u>Quality</u>	<u>Quality degradation barely noticeable</u>	<u>Quality reduction requires customer approval</u>	<u>Quality reduction unacceptable to customer</u>	<u>Project end item is effectively unusable</u>

## Risk Information Sheet

<u>ID:</u>	<u>Date Identified:</u>
<u>WBS Item:</u>	<u>Risk Statement:</u>
<u>Severity:</u> <u>[REFDOC 1023]</u>	<u>[This is a simple statement of what the risk is. Examples:</u>
<u>Probability:</u> <u>[REFDOC 1023]</u>	<input type="checkbox"/> <u>A new technology is being used for some aspect of the project, what is the risk associated with the technology failing or not working as expected?</u>
<u>Originator:</u> <u>[Who identified it?]</u>	<input type="checkbox"/> <u>On a horizontal construction project such as steam or sewer lines, there's a risk of running into unidentified underground utilities. What are the implications?</u>

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<b>Owner:</b> <i>[Who is responsible for managing the risk?]</i>		<input type="checkbox"/> <i>A barracks renovation is timed for completion to support a currently deployed battalion. There's no place else to house the troops on-post if the schedule slips. What are the implications?</i> <input type="checkbox"/> <i>On a lock project, there's a risk of the cofferdam being overtopped. What are the risk(s) and implications?]</i>
<b>Context:</b> <i>[What's the background for this? How did we get to this point?]</i>		
<b>Trigger:</b> <i>[What will trigger this risk?]</i>		
<b>Risk Response:</b> Accept?   Avoid?   Mitigate? <input type="checkbox"/> <b>ACCEPT</b> <i>[If we <b>accept</b> the risk, do we need a contingency plan or some other response? If we accept, is the customer ready to get additional funds or delay schedule or other response, if that's appropriate?]</i> <input type="checkbox"/> <b>AVOID</b> <i>[If we can <b>avoid</b> the risk, describe how we avoided it. Did we eliminate the threat or cause? Choose alternatives?]</i> <input type="checkbox"/> <b>MITIGATE</b> <i>[If we <b>mitigated</b>, what did we do? Reduce the probability of occurrence of the event? Did we change the approach such as off-loading the risk through insurance or other means? Did we set up an additional amount of management reserve to cover identified eventualities?]</i>		
<b>Risk Control:</b> <i>[Will workarounds be required? Corrective actions in mid-stream? Implementation of a contingency plan?]</i>		
<b>Status:</b> <i>[Specify the date of last review of this risk and what the PDT did at that point.]</i>		
<b>Lesson(s) Learned:</b> <i>[If there is a lesson applicable to other projects, document here and feed back through the Observations/Suggestion process of the PMBP Manual.]</i>		
<b>Approved by:</b> <i>[Approving Official signs off and dates in this block.]</i>	<b>Closing Date:</b>	<b>Closing Rationale:</b>

**Probability Rating Table.** Based on the likelihood that an event will occur.

Probability	Description
Frequent	Occurs often, continuously experienced.
Occasional	Occurs several times.
Likely	Occurs sporadically.
Seldom	Unlikely, but could occur at some time.
Unlikely	Can assume it will not occur.

**Severity Rating Table.** Based on the degree of injury, property damage, or other mission impairing factors, to include the degree of impact on the project's Baseline cost, schedule, scope, and quality thresholds as described in the table below:

	Negligible	Marginal	Critical	Catastrophic
<b>Health and Safety</b>	First aid or minor medical treatment	Minor injury, lost workday accident	Permanent partial disability, temp. total disability > three months	Death or permanent total disability
<b>Cost</b>	Insignificant cost increase	5-10% cost increased	10-20% cost increase	>20% cost increase
<b>Schedule</b>	Insignificant schedule slippage	5-10% schedule slippage	10-20% schedule slippage	>20% Overall Project schedule slippage
<b>Scope</b>	Scope change barely noticeable	Minor areas of scope are affected	Scope change unacceptable to customer	Project end item is effectively useless
<b>Quality</b>	Quality degradation barely noticeable	Quality reduction requires customer approval	Quality reduction unacceptable to customer	Project end item is effectively unusable

Enter probability and severity ratings from above into the Overall Risk Table below to characterize overall project risk as E, H, M, or L (described below) for each of the five risk categories:

E (Extremely High) - Loss of ability to accomplish project.

H (High) - Significantly degrades capabilities to accomplish project.

M (Moderate) - Degrades project accomplishment capabilities.

L (Low) - Little or no impact on project accomplishment.

**Example of Overall Risk Table.**

	<b>Health and Safety Hazard Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L
	<b>Scope Risk Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L
	<b>Schedule Risk Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L
	<b>Cost Risk Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M



	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L
	<b>Quality Risk Probability</b>					
		Frequent	Occasional	Likely	Seldom	Unlikely
<b>SEVERITY</b>	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

~~□ Evaluate the above results and determine the highest level risk of all five categories. Overall project risk level is determined by the highest risk rating. Decisions to accept risks must be made at a level equal to the degree of risk. Project and Program Managers and Commanders must weigh the risks against the benefits of performing an activity.~~

~~**Note:** Unnecessary risk can be as great a hindrance to project completion as any other factor. The levels at which USACE risk decisions can be made are: E (extremely high) division commander; H (high) district commander; M (moderate) program manager; and L (low) project manager. In all cases, the benefits of taking the risk must be greater than the possible consequences.~~

~~□ Establish Risk Control procedures for activities that are identified as either M moderate, H high, and E extremely high. Determine and document action(s) required reducing or eliminating hazards and risks. Risk Control Response—This information could be displayed as follows.~~

Risk	Description	Cause	WBS Item Affected	Impact on Project Objectives	Risk Owner and Responsibility	Agreed Response to Risk	Expected Result of Response

~~**Note:** Controls may be as simple as referencing an SOP or conducting a job site briefing.~~

~~□ Risk Monitoring is conducted during the Project Execution & Control Phase. See Project Execution and Control—PROC3000[PROC3000] and Change Management—~~

~~PROC3010[PROC3010] processes, as well as Safety and Occupational Health Plan—REF8016[REF8016] and Quality Management Plan—REF8008[REF8008].~~

The following flowchart depicts the phases of the risk management process:

